

Numbers & Oddities; the early days: February 1995-September 1995.

This is the WUN newsletter from March 1995, which was a N&O special. This special handles the Russian intelligence and diplo network that we first called 'the Brotherhood' and later 'Soud', and which is now better known as 'FAPSI'. Many updates followed, the most relevant updates can be found at the end of this article. A fully updated version of the FAPSI monitoring results was published in the WUN newsletter #9706.

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\\ \\ \\ \\      WORLDWIDE UTE NEWS      // // //
\\ \\ \\ An Electronic Club Dealing Exclusively in Utility Stations // //
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      (= EXTRA EDITION =-)
(= DIGITAL REVIEW -=)   (= NUMBERS & ODDITIES -=)
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Monitoring the 'Brotherhood'
by Ary Boender

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Traffic has always been the same group of cypher systems including the substitution group at the end.

By the late 1980's they were being reported in most of the UTE publications. Don Schimmel reported them in one of the earliest issues of Monitoring Times as UNID and Bob Margolis reported them in PoPComm.

The NDO link has always been a strange one. Not much activity. Only one sked a week (on Wednesdays) and even that is not granted. The WFO / MIG link is the only known 2-way link in the Americas. Although it still operates somewhat clandestinely - minimum amt of chatter, etc. The station sending WFO is definitely the Cuban end (by propagation and bearings). The other end has been pin pointed in the New York City area, probably the Russian UN delegacy.

In the late 80's an European network of RTTY stations popped up, similar to a network that was active in the America's. Both networks are still very active today.

The master station in Europe was 'RCF'. Several frequency guides listed RCF as Ministry for Foreign Affairs in Moscow. After the disintegration of the USSR, the 'RCF' callsign disappeared. The new master station is as powerful as RCF was and one thing is for sure: this station is located in or very near Moscow as well. The station was DFed various times and every time Moscow appeared to be the source of the signal. It is very likely that RCF is still alive and kicking, but doesn't use its old callsign anymore.

Whether the master station or RCF really is / was MFA Moscow will probably remain a mystery. There are many other suggestions though varying from a shipping network to possible connections with TASS, KGB or GRU.

I stick to the theory that this is a diplo network. Whenever something hot is happening, like the Chechenya actions, the stations of the Brotherhood are making overtime, even on Sundays, while there are normally no transmissions on Sundays. The only station that is often heard on Sundays is BFR, which may indicate that it is possibly located in an Islamic country.

The master station transmits crypted messages (5-letter or 5-figure groups) to the other stations. There are fixed schedules for a couple of stations while others are reported less frequently. During the time that RCF was still in place they didn't need to have fixed skeds, as the traffic list system was being used. Now that this system is no longer in use, each link has one or two fixed skeds on an assigned frequency pair. This system is probably much safer, as the sender knows that the recipient received the message correctly. The auto-broadcasts to a.o. KUL, VKX, RAU and RKD are probably just circulars or routine traffic sent to the specific networks (transmitted blind and therefore repeated throughout the day on a larger number of frequencies). It appears that almost all the callsigns that were on RCF's traffic list are still there.

So far we have found the following fixed two-way schedules for Europe:

-
- 08:25-08:30 ??? to DKR
- 08:35 ??? to RJA
- 08:45 WQL to VNB and vice versa
- 09:10 ??? to UXW
- 09:25 ??? to JUA
- 10:05-10:10 ??? to CAZ
- 11:15 KKK to KUA
- 13:20 ??? to DKR
- 14:30 RGA to BFR and vice versa
- 14:50 ??? to RPO
- 16:35 ??? to Udz 21
- 16:50 ??? to JUA

The callups and messages can be divided into two groups: the most common for the America's and Europe goes as follows: ''46464646464646 KUL KUL KUL KUL 1/226''. Note that 46's are transmitted instead of RY's, then the callsign of the recipient and the number of messages / number of 5-letter or 5-figure groups in this message.

The other one is yet only noted in Europe. The transmissions start with a selcal of 6-tones (the system is called Mazielka), followed by the callsign of the recipient sent in CW, then into RTTY where the preamble is handkeyed while the other system has an automated preamble. The Mazielka callup is fairly new, it has been reported since mid 1994.

The Mazielka is a selcal system that is used by the master station to wake up a station outside the normal fixed sked. It is only used to catch the operators attention, not to start the equipment remotely (just like the selcal used in aircraft). The fact that they switch to CW after the Mazielka is a sure sign that the operator has to prepare the equipment before they can start the transmission. The use of non-error correcting RTTY systems makes it practically impossible to establish a link automatically. The Mazielka has never been heard during the normal schedule times, so probably the Mazielka is used when there are very urgent messages that cannot wait 'till the regular schedule time. It seems that there are specific channels for rush traffic as well.

I think that a couple of the callsigns are not in use by only one station, but that KUL, VKX, RAU and RKD are in fact the callsigns of networks. This could mean that the automated transmissions to KUL etc include messages for all stations in such a network. This does not necessarily mean that there is only one callsign for every station in a network. As far as we know every station has a callsign of its own. However, the master station seems to use more than one callsign. VNB, KKK and RGA, which are believed to be transmitting from the same location are most probably callsigns of the master station. It seems that the master receives a different callsign on each specific two-way link.

What did we find so far ?

We have found several clues about the preambles and QSL system. Let's take a closer look at the preambles. Each message starts with a preamble consisting of 5 groups, followed by the message itself. A typical preamble looks like this: 11177 00142 23687 05012 01109.

1st group: probably a message identifier, stating what kinda message it is, maybe also a priority code. 11144, 11166, 11177 and 11199 are the combinations heard so far. The most common are 11177 and 11199. The latter is being used for QSL purposes.

2nd group: the link-identifier, each link has its own id, except for stations who have a two-way link, in that case both stations have the same link-id.

3rd group: the crypto-factor.

4th group: the first two digits are the date and the last three are the message number.

5th group: the first four digits represent the number of groups in the message + 1. The extra group is most likely the crypto-factor (3rd group of the preamble). The last digit is either a '1' or a '9'.

After the messages have been sent, the operators sometimes have a little chat. In the America's the conversations are in often poor English while on the European side often cyrillic is used and also German words are used.

As I mentioned earlier, there are also QSL messages. The original messages can be transmitted on other frequencies and even on other days then the day the QSL messages gets out. The first group of the preamble is always 11199. The messages always seem to start with 55555 followed by 77011, while the last groups represent the QSLed messages. A typical QSL preamble and message looks like this:

```
11199 00142 00000 18010 00069
55555 77011 00089 00090 00091
```

Five different cipher systems have been noted:

- 1) The 3rd group of the preamble is 00000 and the message consists of 5L groups.
- 2) The 3rd group of the preamble consists of random digits and the message consists of 5L groups.
- 3) The 3rd group of the peramble consists of random digits and the message

consists of 5F groups and the last group is NOT 11111.

- 4) The 3rd group of the preamble is 00000 and the message consists of 5F groups and the last group is 11111.
- 5) The 3rd group of the preamble is 00000 and the message consists of 5F groups and the last group is NOT 11111.

The Brotherhood uses various RTTY modes, the most common is Baudot 75bd. Sometimes 50 or 100bd is used. They also use a Russian version of Piccolo, better known as Crowd36 or CIS Piccolo. Other, yet unknown, exotic modes are used as well. Then there is of course the Mazielka and CW is used as well, mostly for chatting and callups.

Who are the partners in this Brotherhood? Well, it's all guesses of course. No-one steps forward and says 'he you guys, it's me you're looking for' :-). According to DF-research, the European master station must be located in the Moscow region, while the WFO / MIG link is a link between Cuba and the New York area, probably the Russian UN legation. Station GMN could be located in Mexico City.

In 'Soviet Signals Intelligence' by professor Desmond Ball, he listed Soviet Sigint Posts located in the Western Hemisphere. The sigint posts are in Mexico City, Washington 2x, New York City, San Francisco, Managua, San Jose, Buenos Aires, Montreal, Ottawa, Chicago and Lima.

So far, 13 transmission schedules have been noted for the Brotherhood in the Americas. There are 12 listed sigint posts and 13 schedules, so if there is a connection between the schedules and the sigint posts, then there must be at least one more sigint post.

The European scene is a bit different; we have not yet determined where the out-stations are located. Most probably outside Russia and in the eastern part of the country.

Then there are the QSF messages: 1/1, 2/1, 3/1, 7/1, 8/1, 9/1 QSF3

The official meaning of the QSF-code is 'I have effected rescue and am proceeding to base'. We can safely assume that the Brotherhood-QSF's have nothing to do with the official meaning of the code. Intensive monitoring of the stations revealed that QSF2 means a normal schedule, QSF4 means no schedule and QSF3 is yet unknown but could mean that an alternative schedule will be used. On the days that QSF1 had been indicated a QRU was sent.

There is a very significant feature to the 5-letter traffic. The last group of every message is a simple substitution which indicates the date the message was composed and the group count which is always 3 less than the group count shown in the preamble. The substitution is:

0	I	U	Z	T	R	E	W	A	P
0	1	2	3	4	5	6	7	8	9

For example:

11177 00148 57477 26811 00609

QKANG XOBJZ VEVXX UEORW

The last group translates to 26057 -- 26th of the month, 57 groups.

ETFNJX TKAGAS

On the American network the sequence 'ETFNJX TKAGAS' is frequently heard. It is always transmitted in sloppy FSK Morse for a couple of minutes and then the transmission stops or continues in RTTY. Because the sloppy way in which this message is keyed, it most probably should read 'E/NJX TKAGAS' but also E/NJX QAG AS is possible.

The station simply comes up without any callsign and begins broadcasting ETNXX TKAGAS over and over for a period of ca 10 minutes. On most occasions, approximately 30 minutes later, one of the regular stations comes up and sends normal traffic but out of the fixed schedule for that station. The 'ET' messages have never been observed on the regular daily scheduled frequencies. They are transmitted on the same frequencies as the QWK messages that are also on the air for the last 15 years. The QWK messages are sent several times a year on one of the regular schedules along with the regular traffic. For example, on Dec. 3, 1994, the following was at the beginning of BPA's regular schedule:

QWK QDG FM 5/12 TO NEXT QWK
FM 00.00 TO 13.00 QSW 10698/7684/13532
FM 13.00 TO 24.00 QSW 16224/13532/19612

Also on Dec. 3, 1995 the following was sent at the end of SPK's regular traffic:

QWK QDG FM 5/12 TO NEXT QWK
FM 00.00 TO 12.00 QSW 10183/7418/13227
FM 12.00 TO 24.00 QSW 19808/16144/13227

ET messages have been heard on every one of the daytime frequencies listed in the messages above. And these messages on these frequencies are almost always copied on a Saturday or a Sunday, but occasionally during the week as recently as March 22, 1995. The QWK message then seems to say "During the times indicated I will use the following as _standby_ or _alert_ frequencies." Until February 1995, there were no reports of such a string on the European network.

Recently a sequence, very much like the American one, was heard and it was keyed in the same sloppy way. The sequence was slightly different from the American one. This one reads 'E/NJX TKAZAS'. The string was recorded and played back for -I guess- a million times by several monitors and fed into

11177 60069 00000 22209 01301

The master station in Moscow sends out messages to KUL, VKX and several others at a fixed daily schedule. Note the '46' test slip instead of 'RY'. 'KUL' is the callsign of the recipient, there are 3 messages with a total of 535 5-letter groups. (messages shortened)

11177 00142 33972 29181 01479

11177 00142 17790 29182 01459

11177 00142 04039 29183 02439

gru gru sk sk

'technical' chat. 'TIKAS' probably comes from Ticai or Tikat which means 'to tick' in various Slavic languages. So TIKAS probably means 'ticker' or 'telex operator / telex / telegram / telex machine' or whatever. The use of SEE in "OM AS SEE A UR PER?" indicates this translation as well (see below for KUA traffic). In this case it would be used as "OM wait, look at your perforator"

vnr 05 gr 314
nr 05 gr 314

tikas
for ptf kua -after qky qrz
zkuuuuuukkkkkkaeex
tikas
for ptf kua -after qky qrz

qru sk qru sk

-> TIKAS in this sense, probably refers to telegram traffic on hand
-> for 'PTF' and 'KUA'.

This was heard on the link 10163 on 16.008 kHz at 09:20 UTC 24/08/94

h qju k
ok see
ok asm

11177 10163 05870~,2.?kb660kk 004(9
cfm
64646464

vvv
om 4to ne nrawits qb ?
asm qsa bd

063 rpt
wqxkvk ok not 23 bd ?
mnqsp ?
ur op 1 ?
ok see hr all cfm pse qsp tikas pbl ili qrz op 1

ryryryryryryryryryry

om pse sa qsp ?

CFM T K S GB SK

11177 30022 48526 20886 03859

SINUB RYXCV RDJWC VUNLX CMCMW VHUUK ZFHAJ NYZJO GBIST PXQMA

TKS GB SK SK

schedule at the end.

vkx vkx vkx 1/476 vkx vkx vkx 1/476 vkx vkx vkx 1/476

11177 00166 72959 31124 04769 5-letter-groups

fm 12.05 test qrg 12124

gru gru sk sk

a transmission schedule.

SEE S WILL QSP ES SA ALL QRG QUW PSE AS SEE WL

06-14 ORG 18587 18617 17488 21860

18-04 QRG 8815 7376 6884 11068

[illegible]

The QSF codes:

The 'RAU' transmission at 14:10 UTC contained the following (msg was repeated on 12180 kcs, shortly thereafter):

[illegible]

The 'KUL' broadcast on 10584 consisted of the following. Interesting is the fact that the 'KUL' transmission on 10584 had one more message than the previous transmission on 12193 kHz. Looks like they got one more message in, during their transmission.

[illegible]

```
12/12 wrk qsf 4
12/12 wrk qsf 4
```

11177 00142 000000 09749 07201

```
all    qtc    3/1013
```

all qtc 3/1013
12/12 wrk qsf 4
12/12 wrk qsf 4

qru qru sk sk

YBU sent this right after his callup and before any other traffic
was sent:

QWK QDG FM 1/11 TO NEXT QWK:

FM 00.00 TO 04.00 QSY 11212/10135/ 8147 QSW 10243/ 8108/ 5837
FM 04.00 TO 11.00 QSY 8225/ 7610/ 6308 QSW 6845/ 5877/ 5258
FM 11.00 TO 14.00 QSY 6645/12530/17325 QSW 5797/11406/16308
FM 14.00 TO 21.00 QSY 16830/18290/19580 QSW 15682/17490/18839
FM 21.00 TO 24.00 QSY 18876/14814/11180 QSW 17490/13627/10294

Then he sent "AGN AGN" and repeated it. Later that same day, station WNY
(on high-speed CW - 34 WPM) sent this:

VVV VVV WNY WNY WNY

NW NW

QWK QDG FM 1/11 TO NEXT QWK
FM 0000 TO 0300 QSW 8144/6881/5745
FM 0300 TO 1200 QSW 8144/6881/9246
FM 1200 TO 2400 QSW 10131/15559/8158

RPT AGN RPT AGN

((repeats entire msg))

Traffic sent to 'JMS' contained this before the regular traffic:

February 03, 1995 22.30 UTC 16842.5 kHz

ILC QDG FM 4/2 TO QWK
FM 00.00 TO 13.00 QWS 10713/8118/13541
FM 13.00 TO 24.00 QWS 18053/16491/13541
QWK QDG FM 4/2 TO NEXT QWK
FM 00.00 TO 13.00 QSW 10713/8118/13541
FM 13.00 TO 24.00 QSW 18053/16491/13541

To show you the similarity in traffic on both the European and the North

American sides, I quote a piece of a transmission from Moscow to -I guess-DKR:

GXWHQ UJBAZ FZLCV WNEGK JZAHF MWZIJ WNEZO QQKLN WKTUS YUSJZ
HIOUK JBUPV SKLBI JVTWC KPZJW UTUUT

OM PSE SEE TIKAS
HR RPT AGN

04.00-06.00

QRG 1 18565/16058/15683/13466/12158/11028/10328/8487/8178/7537

QRG 2 14578/11536/11134/8043/7867/7376/6888/5414/5858/5021

06.00-14.00

QRG 1 23170/22825/21860/18587/20071/18234/15683/14578/16337/12158

QRG 2 18234/18573/18617/17488/18364/13466/11028/10218/8877/7833

14.00-18.00

QRG 1 12131/15733/17488/16337/18617/16184/18308/14486/16058/11614

QRG 2 7814/10315/12188/11028/12188/11536/12131/8203/8843/5478

18.00-04.00

QRG 1 10512/10218/11068/8815/10707/8826/8487/7608/7885/5858

QRG 2 6885/6888/7376/6884/6885/6888/5836/5015/5771/4526

OK ?

WRK FM 01 11 80 KWK QUW TO NEXT QWK

ALL OK?

PSE ALL QSP TIKAS

NIL

PSE QSL

CFM

K

QSL messages which always bear a 11199 as the first group in the preamble, and begin with 55555. Recently a startling message was sent by YBU. It seems to be the first unenciphered code ever seen on the Brotherhood. Here is the entire message:

11199 00148 00000 20269 01759

55555 77011 99641 99749 99736 99719 99726 99667 99635 99749

99736 99710 99750 99736 99751 99762 99640 99607 99749 99736

99748 99749 99736 44326 99736 99612 99721 99736 99705 99736

99678 99736 99688 99744 99641 99744 99641 99635 99696 99696

99641 99655 44326 99736 99607 99704 99737 99688 99744 99641

99744 99750 99750 99696 99641 99768 99655 44326 99736 99704

99664 99751 99688 99744 99641 99744 99750 99750 99696 99750

Analysis shows that starting at the third group, this message uses a trinomial (3-digit) code. When sent as 5F groups, the first two digits of each 5F group are nulls. All of the code groups begin with either a 6 or a 7 except for the one group (repeated three times in the message) which uses 44 as the nulls.

"SULTAN BORN DOTHER (3500/54)" good example of bad English; I assume the 3500/54 is the weight and length in metric of the new born daughter.

Brotherhood link-id's and callsigns. The '*' marks stations that also appeared on the RCF traffic lists.

Link	Callsign	Remarks	RCF
=====	=====	=====	=====
	RAD		
	ACD		*
	BLA		*
	BNV		*
	BXL		*
	DPL		*
	EWZ 42		*
	FJN		*
	FQX		*
	FRU		*
	GLK		*
	LSG		*
	OBX		*
	OWR		*

PTF		*
RCX	81	*
RKG		*
RKM		*
RSS		*
RXX		*
TRP		*
URO		*
WKL		*
OTD		*
SCJ		*
CMU		*
DMA		*
RQO		*
RZJ		*
RMM		*
EWZ	40	*
UDZ	27	*
UXG		*
KDN		*
ROL		
00030	BFR	(2 way contact with RGA)
00030	RGA	(2 way contact with BFR)
00052	NQX	
00070	RAU	
00098	VTX	
00099	RSZ	
00116	BPA	
00117	HZW	
00119	GMN	
00125	MIG	(2 way contact with WFO)
00125	WFO	(2 way contact with MIG)
00126	PSN	
00127	JMS	
00128	KAC	
00135	BAR	
00139	WNY	
00142	KUL	
00148	YBU	
00149	DZR	
00156	NDO	
00162		
00166	VKX	
00168	SPK	
00177		
00178	KRN	
00208	RKD	
10042		

10075					
10163					
20054	UDZ	21	(2 way contact with ???)		*
20054			(2 way contact with UDZ 21)		
30022	KUA		(2 way contact with KKK)		*
30022	KKK		(2 way contact with KUA)		
30044					
30088					
40034	UXW		(2 way contact with ???)		
40034			(2 way contact with UXW)		
50002	CAZ		(2 way contact with ???)		*
50022			(2 way contact with CAZ)		
50035	JUA		(2 way contact with ???)		*
50035			(2 way contact with JUA)		
50079					
60003					
60047					
60069					
70060	DKR		(2 way contact with ???)		*
70060			(2 way contact with DKR)		
80031					
80038	RPO		(2 way contact with ???)		*
80038			(2 way contact with RPO)		
80061	VNB		(2 way contact with WQL)		
80061	WQL		(2 way contact with VNB)		*
90051	RJA		(2 way contact with ???)		
90051			(2 way contact with RJA)		

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>>>>>>>>>>>>>>>>>>> Chapter 4: Frequency lists <<<<<<<<<<<<<<<<<
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Brotherhood frequencies, Europe Last update: 29-3-1995

* indicates inactive channel

FREQUENCY	Link-ID	TIME	RTTYMODE	
4873,00	<00142>	18,50	F1B-75	to 'KUL' /after 6798 transm.
4880,00	<00142>	18,52	F1B-75	to 'KUL'*
6798,00	<00142>	19,15	F1B-75	to 'KUL'
7525,00	<00149>	16,25	F1B-100	'???' to 'DZR'
7692,00	<?????>	16,35	F1B-75	
8084,00	<00030>	14,47	F1B-75	'BFR' to 'RGA' QSOX 10767
8165,00	<00142>	7,27	F1B-75	to 'KUL'
10125,00	<?????>	13,50	F1B-75	
10183,00	<00166>	10,36	F1B-75	to 'VKX'*
10202,00	<?????>	9,25	F1B-75	

10218,00	<50035>	15,57	F1B-75	'???' to 'JUA' ???
10244,00	<?????>	14,45	F1B-100	
10260,00	<50035>	16,50	F1B-75	'???' to 'JUA'
10410,00	<00142>	7,15	F1B-75	to 'KUL'
10426,00	<?????>	15,06	F1B-75	
10453,00	<70060>	15,12	F1B-75	'???' to 'DKR'
10482,00	<90051>	18,18	F1B-75	to or from 'RJA'
10485,00	<80061>	8,45	F1B-75	'WQL' to 'VNB' QSX 13425
10584,00	<00142>	14,19	F1B-75	to 'KUL'/after 12193 transm.
10586,00	<00142>	14,25	F1B-75	to 'KUL'
10672,00	<00149>	16,25	F1B-100	'???' to 'DZR'
10735,00	<90051>	15,30	F1B-75	'???' to 'RJA'
10744,00	<00052>	9,15	F1B-75	to or from 'NQX'
10760,00	<10075>	15,05	F1B-75	
10762,00	<00030>	14,48	F1B-200	'RGA' to 'BFR'
10767,00	<00030>	15,00	F1B-75	'RGA' to 'BFR' QSX 12239
10915,00	<80038>	15,05	F1B-75	to or from 'RPO'
11132,00	<00166>	12,00	F1B-75	to 'VKX'*
11412,00	<60069>	16,09	F1B-75	
11413,00	<60069>	15,36	F1B-75	
11421,00	<00149>	15,27	F1B-100	'???' to 'DZR'
11433,00	<30022>	15,50	F1B-75	'KKK' to 'KUA'
11434,00	<10042>	18,25	F1B-75	
11436,00	<00149>	15,40	F1B-100	'???' to 'DZR'
11440,00	<30022>	11,31	F1B-75	'KUA' to 'KKK'
11468,00	<00149>	14,26	F1B-100	'???' to 'DZR'
11477,00	<?????>	14,40	F1B-75	
11487,00	<30044>	14,38	F1B-75	
11507,00	<80038>	15,05	F1B-75	to or from 'RPO'
11541,00	<50035>	17,13	F1B-75	'JUA' to '???' QSX 10260 kHz
.				backup channel only ! QSY from unknown freq.
12124,00	<00166>	12,05	F1B-75	to 'VKX'*
12130,00	<00098>	15,55	F1B-75	'???' to 'VTX'
12132,00	<00149>	9,20	F1B-100	'???' to 'DZR'
12134,00	<00098>	15,35	F1B-75	'???' to 'VTX'
12137,00	<00162>	10,10	F1B-75	
12144,00	<20054>	16,37	CW	'UDZ 21' to '???' QSX 14854
.				backup channel only ! QSY from unknown freq.
12146,00	<10042>	11,43	F1B-75	
12151,00	<?????>	15,15	F1B-75	
12152,00	<?????>	17,17	F1B-75	
12152,00	<70060>	9,45	F1B-75	'???' to 'DKR'
12157,00	<?????>	9,18	F1B-75	'???' to 'RAD'
.				+UNID RTTY-mode F1B-200 PSEUDO#-bitstream
12174,00	<00052>	13,30	F1B-75	'???' to 'NQX'
12180,00	<00166>	15,12	F1B-75	to 'VKX' after 14852 transm.
12180,00	<00070>	14,28	F1B-75	to 'RAU' after 14980 transm.
12193,00	<00142>	14,15	F1B-75	to 'KUL'

12194,00	<00052>	9,43	F1B-75	to or from 'NQX'
12197,00	<00142>	14,12	F1B-75	to 'KUL'
12223,00	<20054>	17,30	F1B-75	to 'UDZ 21' ???
12239,00	<00030>	15,05	F1B-75	'BFR' to 'RGA' QSX 10767
12332,00	<10042>	14,36	F1B-75	
13016,00	<00125>	14,17	F1B-75	'MIG' to 'WFO'
13393,00	<60003>	15,56	F1B-75	QSX 14412 = altern. freq./QRM
13400,00	<00030>	13,20	F1B-75	'RGA' to 'BFR' QSX 12239
13420,00	<00030>	13,15	6-tone/CW	'RGA' to 'BFR' /
.				RTTY on 13400 kHz QSX 12239 kHz
13420,00	<?????>	12,41	F1B-75	
13425,00	<80061>	8,53	F1B-75	'VNB' to 'WQL' QSX 10485
13506,00	<40034>	9,10	F1B-75	'???' to 'UXW'
13507,00	<40034>	9,20	F1B-75	'???' to 'UXW'
13520,00	<?????>	11,00	F1B-75	
14427,00	<40034>	09,27	F1B-75	to or from 'UXW'
14577,00	<80038>	14,59	F1B-75	'???' to 'RPO'
14587,00	<80038>	14,50	F1B-75	'???' to 'RPO'
14605,00	<00166>	15,01	F1B-75	to 'VKX'*
14608,00	<00166>	15,00	F1B-75	to 'VKX'*
14622,00	<00166>	12,18	F1B-75	to 'VKX'*
14622,00	<30022>	10,56	F1B-75	'KUA' to 'KKK' QSX 16054
14625,00	<00099>	14,28	F1B-100	to or from 'RSZ'
14630,00	<?????>	11,48	F1B-75	probably 'KUA'
14632,00	<30022>	12,30	F1B-75	'KUA' to 'KKK' QSX 16054
14640,00	<00142>	15,30	F1B-75	to 'KUL'
14736,00	<00125>	14,18	F1B-75	'MIG' to 'WFO'
14820,00	<?????>	14,20	F1B-75	
14830,00	<00030>	15,22	F1B-75	'BFR' to 'RGA'
14832,00	<?????>	16,05	F1B-75	
14834,00	<00208>	16,10	F1B-75	to 'RKD'
14842,00	<?????>	13,44	6-tone	
14852,00	<00166>	11,00	F1B-75	to 'VKX'
14854,00	<20054>	16,35	F1B-75	'???' to 'UDZ 21'
14863,00	<?????>	11,53	6-tone + CROWD	36 (14865 kHz)
14870,00	<?????>	14,33	F1B-100	
14894,00	<?????>	13,44	F1B-75	
14947,00	<30088>	10,07	F1B-75	
14950,00	<?????>	14,30	F1B-75	
14950,00	<?????>	14,34	6-tone	
14971,00	<00070>	14,10	F1B-75	to 'RAU'
14973,00	<00070>	14,12	F1B-75	to 'RAU'
14974,00	<00070>	14,12	F1B-75	to 'RAU'
14977,00	<00070>	14,12	F1B-75	to 'RAU'
14980,00	<00070>	14,10	F1B-75	to 'RAU'
14985,00	<00070>	14,10	F1B-75	to 'RAU'
15678,00	<?????>	12,44	F1B-75	to 'NQX'????
15678,00	<00052>	11,50	F1B-75	'???' to 'NQX'

15696,00	<?????>	14,50	F1B-75	'RGA' to 'BFR' ????
15696,00	<00030>	11,50	F1B-75	'RGA' to 'BFR'
15702,00	<00030>	10,48	F1B-75	'RGA' to 'BFR'
15707,00	<60047>	13,00	F1B-75	
15708,00	<00030>	15,30	F1B-75	'RGA' to 'BFR'
15710,00	<30022>	14,58	F1B-75	'KKK' to 'KUA'
15722,00	<00030>	11,05	F1B-75	'RGA' to 'BFR'
15734,00	<10042>	13,05	F1B-75	
15826,00	<?????>	9,30	F1B-75	to 'UXW' ????
15826,00	<40034>	9,45	F1B-75	to 'UXW'
15836,00	<?????>	12,53	CW	'???' to 'RAD' request QSY 11672/13434
16008,00	<10163>	9,20	F1B-75	
16018,00	<10163>	12,33	F1B-75	
16032,00	<30088>	9,55	F1B-75	
16054,00	<30022>	10,10	F1B-75	'KKK' to 'KUA'
16064,00	<30022>	10,53	F1B-75	'KKK' to 'KUA'
16081,00	<00166>	9,33	F1B-75	to 'VKX'*
16108,00	<?????>	7,54	F1B-75	
16153,00	<70060>	8,30	F1B-75	'???' to 'DKR'/also 13:20
16154,00	<70060>	8,45	F1B-75	'???' to 'DKR'
16155,00	<?????>	10,05	F1B-75	'???' to 'DKR' ???
16214,00	<?????>	9,54	6-tone	'???' to 'FQX'
16225,00	<?????>	16,35	F1B-100	
16232,00	<60003>	8,39	F1B-75	
16242,00	<00099>	17,00	F1B-100	to or from 'RSZ'
16244,00	<90051>	8,33	F1B-75	'???' to 'RJA'
16252,00	<00149>	11,47	F1B-200	to or from 'DZR'
16273,00	<00098>	8,15	F1B-75	to or from 'NXQ'
16277,00	<60069>	11,15	F1B-75	
16285,00	<00177>	8,45	F1B-75	
16285,00	<00099>	8,40	F1B-75	to or from 'RSZ'
16324,00	<30022>	11,40	F1B-75	'KKK' to 'KUA'
16332,00	<10042>	8,55	F1B-75	
16342,00	<10042>	11,28	F1B-75	
16344,00	<30022>	11,40	F1B-75	'KKK' to 'KUA'
17533,00	<30088>	10,15	F1B-75	
18092,00	<60003>	8,42	F1B-75	
18225,00	<00166>	11,00	F1B-75	to 'VKX'*
18250,00	<50035>	9,25	F1B-75	'???' to 'JUA'
18332,00	<10042>	9,14	F1B-75	
18420,00	<50079>	11,30	F1B-75	
18424,00	<10042>	14,05	F1B-75	
18440,00	<?????>	11,40	F1B-75	
18585,00	<50002>	10,10	F1B-75	'???' to 'CAZ'
18610,00	<80038>	10,35	F1B-75	to or from 'RPO'
18752,00	<60069>	7,31	F1B-75	
18835,00	<00030>	14,35	F1B-75	'RGA' to 'BFR'
20042,00	<60003>	8,50	F1B-75	

20340,00 <10042> 11,10 F1B-75
 20690,00 <80038> 11,47 F1B-75 to or from 'RPO'

Brotherhood frequencies, America's Last update: 26-3-1995

Messages are sent on the primary frequency and repeated right afterward on the secondary frequency.

Frequencies

Primary / secondary	Link-id	U.T.C.	Mode	Remarks
19957	00126	22.35	F1B-75	to PSN
13382.1 00125	21.15	F1B-75	to MIG	
13382.1 00125	14.15	F1B-75	to MIG	
14727 10424	00116	15.15	F1B-75	to BPA
14736 00125	14.15	F1B-75	to WFO	
14736 00125	21.15	F1B-75	to WFO	
16224 13532	00116	16.00	F1B-75	to BPA sometimes on Wed, Sat. & Sun
.				
16228 18805	00148	14.00	F1B-75	to YBU
16283 14236	00128	20.45	F1B-75	to KAC
16327 14376	00128	14.50	F1B-75	to KAC <not daily>
16327 14376	00128	20.45	F1B-75	to KAC occasionally, esp. Sat & Sun
.				
16448 00135	13.00	F1B-50	to BAR	
16448 00178	17.30	F1B-75	to KRN	
16843 13627	00127	22.30	F1B-75	to JMS
17450 00156	16.50	F1B-50	to NDO <Wednesdays only>	
18081 16491	00127	16.20	F1B-75	to JMS occasionally. esp. Wed & Thur
.				
18081 16491	00127	22.30	F1B-75	to JMS occasionally
18828 00117	20.00	F1B-50	to HZW	
19618 16138	00148	16.10	F1B-75	to YBU occasionally, esp. Wed
.				
19618 16138	00148	19.35	F1B-75	to YBU occasionally
19808 00168	13.45	F1B-50	to SPK occasionally	
19808 16144	00168	16.00	F1B-50	to SPK sometimes on Sat. & Sun.
.				
19957 00126	22.40	F1B-75	to PSN	
20140 17480	00148	22.00	F1B-75	to YBU
20588 16448	00139	19.00	F1B-75	to WNY
20733 18128	00119	16.45	F1B-75	to GMN
20823 18128	00135	21.00	F1B-50	to BAR
21867 18846	00168	16.00	F1B-50	to SPK

-o-o-o-o-o-o-o-o-o-o-

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Check out the WUN web site at: <http://www.wunclub.com>

-o-o-o-o-o-conet-o-o-o-o-

Updates to the above article. The original updates were written between April 1995 and June 1996.

The 'Brotherhood'

Thanks for the many compliments that you sent me for the Brotherhood special. I hope that the story made you tune in to these stations. I wonder if the Brotherhood also has a network in Australia. Has anyone in this part of the world heard stations like this ? Does anyone know where the stations in Europe and America's are located ? Please, tune in as often as you can and let me know the results. It would be nice if we could unwrap this mystery. As promised there will be updates to this article in my columns. Here is the first update to the European frequency list: Callsign NQX must be NXQ.

Frequency	UTC	Link	Mode / remarks
-----------	-----	------	----------------

16008 kHz,	9.17,	10163,	F1B-75
12136 kHz,	15:32,	00149,	F1B-100 'DZR' to "Master" backup channel
11460 kHz,	15:32,	00149,	F1B-200 !! "Master" to 'DZR' (sked 15.30)
12174 kHz,	08.00,	00052,	F1B-75 to NXQ

Brotherhood update

One new link has been noted in April:

Callsign: RVV, Link-id: 20087, UTC: 14.20, Freq: 13.418 kHz.

The transmissions to VKX on 14605 kHz are now scheduled for 16.10 UTC.

'Brotherhood' update

A new sked for KKK (to KUA) can be found on 10850 kHz at 19.04 UTC.

In our WUN-special about the Brotherhood, I told you that it most probably is a diplo-related network. Just recently some new and very interesting info came in. It seems that it is more than just diplo-related. According to usually well informed sources, this network belongs to an organization called SOUD.

This organization was founded in 1977 by the Communist block and is basically an intelligence agency, accessible by all members of the former and still active communist block. The job of this organization is to gather information on everyone and everything - including their own and foreign embassy personnel. They are said to be based either on the premises of the Russian embassies and/or in separate installations. The organization's central computer is located in Moscow, and queries from members, regarding any subject are said to be handled in less than 4 hours time.

This theory makes sense, because it would explain:

- the use of Baudot telegraphy as some of the members don't have the money to get hold of sophisticated equipment and with so many nations involved it is of course a question of standardization!
- the almost worldwide appearance of this net
- the question "ruskih registrow ok ?" which is rather puzzling if this were to be a solely Russian net (see WUN#3).
- the use of non Russian words ("bereit", "Si")

Ok, who are they ? Little is known of the ultra secret intelligence organization SOUD "Soglasheniye o Sisteme Objedinennowo Utschotja Dannych o protiwtnike" which is Russian for "System for mutual gathering of info about the enemy". This organization was founded in 1977 and was meant to serve as an electronic information gathering association between the intelligence agencies of the socialist camps. The members of SOUD were the Soviet Union, Bulgaria, Hungary, Poland, Czechoslovakia, Mongolia, Cuba and ofcourse Eastern Germany. They were later joined by Vietnam.

The immediate cause for the foundation of SOUD were the 1980 Olympics in Moscow. To safe guard the USSR from 'foreign hostile forces' during the Olympics, the main task for SOUD was to gather as much information about the 'enemy' as they possibly could and store this info as comprehensive as possible. Because the western countries boycotted the Olympics in Moscow, most of the 'enemies' didn't show up either. Nevertheless SOUD became an absolute hit in spy-land. Their success was so huge that they survived the end of the cold war and even the collapse of the communist block.

After the foundation in 1977, it took about 2 years before they became active. Besides the initiator, the KGB, no agency was as fanatical as the East German Stasi. SOUD still gathers information about all possible 'enemies' of the alliance which are stored in the main computer in Moscow and queries from members, regarding any subject are said to be handled in less than 4 hours time.

The SOUD databanks include names of agents, zionists, hostile religious organizations and organizations of emigrants, journalists, diplomats, cultural and commercial attachés, representatives of airlines, etc etc. Information found in Stasi documents reveals that in 1989 more than 11100 names were collected. Most of them included a personal description, the maiden name of the mother and a sample of the handwriting.

Brotherhood update

A new sked for messages to RAU can be found on 13880 kHz at 08.10 UTC. UXW has a fixed sked at 09.10 UTC on 14426 kHz with RLX in Moscow, the other end of the link is on 13506 kHz. The link id for both stations is 40034.

-> The 'Brotherhood'/SOUD stations RLX & UXW were extremely busy during the London conference on Bosnia, RLX sent monster messages to UXW for over an hour, so perhaps UXW is the Russian embassy in London. A strange header was sent from UXW to RLX on 14426 kHz 21/07/95, 09:11 UTC: 11177 40034 68983 21587 00043. Note that the last group of the message does not correspond to the usual brotherhood substitution system.

> SOUD update: Paul Scalzo found a new SOUD station. The new station has callsign 'SVA'. The link identifier is yet unknown. There is a sked at 00.00 UTC on 10422.7 kHz in 75bd Baudot towards 'SVA'. The callup was in sloppy CW.

-> SOUD: Rick Baker heard on 14736 kHz a new sked at 19.45 UTC on the WFO / MIG link. We finally know for sure where these guys are located. We knew already that WFO is the Russian UN delegation in New York. Now we also know that MIG is in Managua, Nicaragua !!! The Managua site is confirmed through Dave Batcho from an official US Government source. We also have proof that the SOUD stations are using 10 and 40bd MFSK Crowd36. On 16214 kHz at 10.25 UTC selcal 'VDGB' was heard followed by a message to link 60015 both transmitted in 40bd. The usual operator chatter was in 10bd MFSK. This freq was earlier used for transmissions from Moscow to 'FQX', link id unknown. FQX may be the callsign for link 60015. Here's the header: 11177 60015 99+865 1BB77 00199
Other SOUD 40bd freqs are: 10327, 11051, 11073, 12179 kHz with mostly encrypted traffic or sent in another exotic mode while unencrypted stuff can be found on 12128, 13398, 14632, 14659, 14817, 14823 and 16214 kHz.

Guy Denham writes from the UK that he caught the WQL / VNB link at 16.30 UTC on 5775 kHz (WQL link 80061) and on 6862 kHz he heard VNB although he is not 100% sure of the latter. The interesting thing that Guy noted is the use of the digit '3' at the end of the 5th group. This was sent on various occasions so a typo must be ruled out. Guy also copied traffic to the counterparts of RVV and DZR on links 00149 and 20087. Here are the skeds:

00149 RVV / RVC47. Traffic to RVC47 heard on 8057 at 17.55 UTC
20087 DZR / RBP71. Traffic to RBP71 heard on 9237 at 17.55 UTC

In both cases sloppy CW callup procedures were followed by 75bd RTTY.

SOUND update

- o It seems that I made two serious bloopers in WUN#12. Sorry for that. The first one was in the SOUND update when I told you that the end that sends MIG is definitely in Managua. Well, that is true but the other end that sends WFO is NOT the Russian legation in NY. It is the large Russian transmitter site just outside Havana - the same site from which the other (one-way broadcast) SOUND transmissions come.
- o Guy Denman from Portsmouth, UK, copied a new SOUND station on 7920 kHz using link-id 00074. This sked starts at ca 14.45 UTC. Guy also enclosed a recent sked for a bunch of the European transmissions.

Freq.	UTC	to	link	
12193	14.10	KUL	00142	
14980	14.10	RAU	00070	
10584	14.20	KUL	00142	repeat of 12193
12180	14.30	RAU	00070	repeat of 14980
10767	14.30	BFR	00030	
5775	15.25	WQL	80061	working VNB on 6862
6862	15.25	VNB	80061	
7920	14.45	?	00074	
15735	16.10	FQX	60003	
12195	16.30	GOD	00090	
10277	16.45	?	?	
10287	17.30	JSC	00190	
8057	17.45	RVC47	20087	
9237	17.55	RBP71	00149	(also noted at 17.30 -Ary-)
9073	17.55	UNID		
6798	18.40	KUL	00142	

- o Edgar White sends us a couple of loggings along with his best wishes for '96. Thanks Edgar, it is a good update to the America's sked.

Frequency	to	link	UTC	mode/speed/shift
16226.28	clg YBU,	00148,	14:00	BAUDOT 75/500
18803.26	clg YBU,	00148,	14:09	BAUDOT 75/500
14725.33	clg BPA,	00116,	15:15	BAUDOT 75/500
10422.35	clg BPA,	00116,	15:26	BAUDOT 75/500
21865.2	clg SPK,	00168,	16:00	BAUDOT 50/500
18844.24	clg SPK,	00168,	16:25	BAUDOT 50/500
20731.21	clg GMN,	00119,	16:45	BAUDOT 75/500
18185.28	clg GMN,	00119,	16:54	BAUDOT 75/500
16446.27	clg KRN,	00178,	17:35	BAUDOT 75/500

14465.28 clg KRN, 00178, 17:43 BAUDOT 75/500
16446.26 clg WNY, 00139, 19:09 BAUDOT 75/500
16841.26 clg JMS, 00127, 22:30 BAUDOT 75/500

- o SOUD. Edgar White copied SOUD when they messed up:
14724.5 clg BAR: SOUD link 00116 1515 Baudot 75/500 Tfc 3/210
10422.3 clg BAR: SOUD link 00116 1524 Baudot 75/500 Tfc 3/210
This link id, frequency and schedule is normally used for calling BPA.
Now BAR was called instead of BPA.
He also copied a sked for SPK (link id 00168)
QWK QDG FM 14/01 TO NEXT QWK
FM 00.00 TO 12.00 QSW 9144/7884/13451
FM 12.00 TO 24.00 QSW 19827/16218/13451

SOUD update:

- o A new link has been copied on 14473.88 kHz, SOUD Moscow, link id 90039, txm mode Crowd36 at 12.07 UTC.
- o Guy Denman heard on 10482 kHz at 08.45 UTC on link 80061 transmission to VNB. Digit '3' as last figure of last group in the header is being used all the time now.
He also copied at 09.10 UTC on 17474 kHz, link 10163. This one has not been reported for the past 6 months. This link was active in 1994/early '95 but had no fixed sked.
- o Edgar White writes that he noticed an odd thing:
11144 00139 80697 20152 00809
ZJAXH IQXTN HOXCQ ORDIN QEGLE XGAUE RZJSY MJMAH THLDP RYKES
<clip clip clip>
EDJTH LDNSR WCGOY MUSKH SKCGG YMXNC ISBBJ QYRRQ IPOWW

11177 00139 26760 19150 00809
ZJAXH IQXTN HOXCQ ORDIN QEGLE XGAUE RZJSY MJMAH THLDP RYKES
<clip clip clip>
EDJTH LDNSR WCGOY MUSKH SKCGG YMXNC ISBBJ WGQLR IPOWW

'Message 19150 was first sent to WNY on 19 Dec., then both appeared together on 20 Dec. and message 20152 was re-sent on 21 Dec. Groups 1/77 of both messages are identical, which would seem to indicate that these contain the real cipher text, which would agree with the encoded count contained in group 79. I wonder then if both group 78 and pmb1 group 3 are used to derive the cipher key ?'

It is possible Edgar. Except for the date and cypher group 3 nothing else changed, so I guess group 78 has either a connection with group 3, the date or both.

- o Stan Scalsky noted a new sked for the txm to KAC: 2030-2100 UTC

o SOUD update. Guy Denman sent me the current sked for the fixed links.

Freq	UTC	callsign to	link	in contact with	last heard
-----	-----	-----	-----	-----	-----
5775	1525	WQL	80061	VNB 6862	27 March
6862	1525	VNB	80061	WQL 5775	27 March
6798	1840	KUL	00142	Broadcast	23 April
8059	1755	RVC47	20087	RBP71 9237	26 March
9237	1755	RBP71	20087	RVC47 8059	26 March
10287	1730	JSC	00190	?	23 April
10482	0845	VNB	80061	WQL 13423	19 April
10482	1525	VNB	80061	?	24 April
10582	1420	KUL	00142	Broadcast Rpt of 12193	24 April
10767	1425	BFR	00030	?	22 April
12193	1410	KUL	00142	Broadcast Rptd on 10582	24 April
13880	0710	RAU	00070	Broadcast	2 May
13506	0910	UXW	40034	?	19 April
13423	0845	WQL	80061	VNB 10482	19 April
14364	1340	?	20087		April
14980	1410	RAU	00070	Broadcast	21 March
15735	1730	FQX	60003	?	23 April
16273	1410	?	00098		April
16305	0930	UGO	50079	?	2 May
16320	0930	?	40078	?	3 May
18093	1420	?	60003		April
18422	1410	?	10024		April

One of our other monitors writes that the Moscow brotherhood station has been active all day long on 9 June on 13530 kHz in 50 bd, sending the following very strange 5 FG message over and over again (note the repetitions !)

```

11177 12311 23121 07342 01909
12341 23448 69876 87698 69876 88295 38743 20980 92809 02976
32670 27364 92836 09428 61208 74982 36498 32764 81276 01276
30986 40932 70987 32123 49817 26346 81287 65491 87364 81267
98721 75654 55656 12737 72727 72727 91918 63473 67867 76732
86723 87629 37677 32612 53498 71296 28756 18276 98716 87326
87269 76329 74698 76857 98670 27601 56701 57601 73648 15728
76591 87364 87265 96710 27630 12673 84769 28743 98127 59876
29458 63298 75698 27465 87326 49876 28376 81273 98615 62875
69867 87432 74328 78674 29867 32867 67867 86786 43286 43286
65467 68768 68763 34234 34238 68768 62342 48273 48768 23487
12936 98432 32432 86743 43286 43286 43286 43286 43286 43286
86743 86743 86743 39867 32867 86743 43286 43286 43243 86743
86741 86743 86743 86743 86743 86743 86743 86743 86743 43543
87543 98798 98754 98754 98754 98754 29867 67543 67986 86754
69876 87698 69876 87698 69876 87612 12341 34867 86798 63298

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69867 43298 65656 56756 56123 32143 14321 32143 14321 32143
14321 32787 58765 76587 58765 76587 58765 76587 58756 76587
76654 75456 36543 54365 36543 54365 36543 54365 36543 54356
36543 54365 35643 54356 36543 64356 35643 54356 36543 33333

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